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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/612,340	07/06/2000	Robert Francis Berry	AUS990853US1	7150

35525 7590 03/15/2004

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EXAMINER	
VO, LILIAN	
ART UNIT	**PAPER NUMBER**
2127	

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/612,340	BERRY ET AL.	
	Examiner	Art Unit	
	Lilian Vo	2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 July 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 46 are pending.

Specification

2. The attempts to incorporate subject matter into this application by reference to attorney docket numbers are improper. Applicants need to provide the application serial numbers and/or patent numbers with the filing dates to specification page 2.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4, 6,13 – 15, 16 - 46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. **Claim 4** recites the limitation "the execution" in line 2, page 78. There is insufficient antecedent basis for this limitation in the claim.

6. **Claim 6** recites the limitation "the last processor" in line 4, page 79. There is insufficient antecedent basis for this limitation in the claim. For the purpose of the examination, the examiner will assume it's referring the processor last profile information.

7. **Claim 13** recites the limitation "the first processor" in lines 1 – 2, page 81. There is insufficient antecedent basis for this limitation in the claim.

8. **Claim 14** recites the limitation "the last thread" in line 6, page 81. There is insufficient antecedent basis for this limitation in the claim. For the purpose of the examination, the examiner will assume it's referring the current thread or previous thread.

9. **Claim 15** recites the limitation "the respective SMP processor's" in line 17, page 82. There is insufficient antecedent basis for this limitation in the claim.

10. **Claims 16 and 17** recite the limitation "the value" in line 5, page 82 and line 6, page 83, respectively. There is insufficient antecedent basis for this limitation in the claim.

11. **Claim 17** recites the limitation "resetting a first last thread accumulated profile information" in line 9, page 83. This is considered vague and unclear. For the purpose of the examination, the examiner will assume it's referring the last thread accumulated profile information.

12. **Claim 19** recites the limitation "the execution of the first thread" in lines 2 - 3, page 83. There is insufficient antecedent basis for this limitation in the claim.

13. **Claim 21** recites the limitation "executing means for executing means for executing", "a second thread of the native code routine; and" in lines 5 and 14, page 84. It is considered vague and unclear. The examiner believes there is a typographical error.

14. **Claim 30** recites the limitation "retrieving means for retrieving means for retrieving", in line 9, page 86. It is considered unclear. The examiner believes there is a typographical error.

15. **Claim 34** recites the limitation "a second thread of the native code routine; and" in line 16, page 88. It is considered vague and unclear. The examiner believes there is a typographical error.

16. **Claim 35** recites the limitation "ascertaining means for ascertaining means for ascertaining", line 5, page 88. It is considered unclear. The examiner believes there is a typographical error.

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 1, 2, 3, 5 – 6, 10, 13 – 16, 18, 20 – 23, 25 – 26, 30, 33 – 36, 38, 39, 43 and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Summers (US 5,838,976).

19. Regarding **claim 1**, Summers teaches a method for monitoring performance of a program being executed using symmetric multiprocessing (SMP) functionality (abstract) comprising:

executing a native code routine (col. 3, lines 28 – 38);

executing a first thread of the native code routine on a first symmetric multiprocessing (SMP) processor (col. 3, lines 28 – 54: the parent level, parent thread split into several child threads, col. 4. lines 10 – 24, col. 5, lines 17 - 48);

ascertaining first profile information (4, lines 10 – 44, col. 5, lines 17 - 48);

updating first thread profile information with the first profile information (col. 4, lines 10 – 44, col. 5, lines 17 - 48);

executing the first thread of the native code routine on a second SMP processor (col. 4, lines 10 – 44, col. 5, lines 17 - 48);

ascertaining second profile information (col. 4, lines 10 – 44, col. 5, lines 17 - 48); and

updating first thread profile information with the second profile information (col. 4, lines 10 – 44, col. 5, lines 17 - 48).

20. Regarding **claim 2**, Summers teaches the method recited in claim 1 above, further comprises:

executing a second thread of the native code routine on the first SMP processor (col. 4, line 61 – col. 5, line 11, lines 17 - 48);

ascertaining third profile information (col. 4, line 61 – col. 5, line 11, lines 17 - 48); and

updating second thread profile information with the third profile information (col. 4, line 61 – col. 5, line 11, lines 17 - 48).

21. Regarding **claim 5**, Summers teaches the method recited in claim 1 above, wherein ascertaining first profile information further comprises:

retrieving processor accumulated profile information (col. 4, lines 5 – 44, fig. 2);

retrieving processor last profile information (col. 4, lines 5 – 44, fig. 2); and

calculating the first profile information by comparing by comparing the processor accumulated profile information and the processor last profile information (col. 4, lines 5 – 44, fig. 2).

22. Regarding **claim 6**, Summers teaches the method 5 above further comprises:

resetting the processor last profile information by replacing the last processor profile information with the processor accumulated profile information (col. 4, lines 17 – 44).

23. Regarding **claim 13**, Summers teaches the method recited in claim 1 above, wherein the first processor accumulated profile information comprises one of allocation bytes, allocation objects, time, live object and live bytes (col. 4, lines 17 – 24, fig. 2).

24. **Claims 3, 10, 14 – 16, 18, 20 – 23, 25 – 26, 30, 33 – 36, 38, 39, 43 and 46** are rejected on the same ground as stated above.

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

26. Claim 4, 7, 8, 9, 11, 12, 17, 19, 24, 27 - 29, 31, 32, 37, 40 - 42, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Summers (US 5,838,976) as applied to claims 1, 21 and 34 above, in view of Liang (US Pat. Application Publication 2002/0099760 A1).

27. Regarding **claim 4**, although Summers teaches the method recited in claim 1 above, except he fails to teach the first profile information relates to the execution of the first thread on a virtual machine. Nevertheless, Liang teaches the profile information relates to the execution of the first thread on a virtual machine (page 2, paragraphs 0026 - 0028, figs. 1 and 2).

It would have been obvious for one of an ordinary skill in the art, at the time the invention was made to incorporate Liang's teaching to Summers' system so that execution related on the virtual machine can be obtained for performance enhancement.

28. Regarding **claims 7 and 8**, Summers teaches the method recited in claim 1 above, wherein ascertaining first profile information further comprises:

accessing a first processor data area containing first processor accumulated profile information (col. 4, lines 10 – 44, col. 5, lines 17 - 48); and

wherein the first profile information is calculated from the first processor accumulated profile information (col. 4, lines 10 – 44, col. 5, lines 17 - 48).

Summers however did not teach the step of updating the first processor accumulated profile information with virtual machine profile information. Nevertheless, Liang teaches the processor accumulated profile information is implemented with a virtual machine (page 2, paragraphs 0026 – page 3, paragraph 0028, 0036 – 0039).

It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to consider combine Summers' and Liang's teachings so that execution related on the virtual machine can be obtained for performance enhancement.

29. Regarding **claims 9, 29 and 42**, Summers teaches the step of accessing a first processor data area containing first processor accumulated profile information (col. 4, lines 10 – 44, col. 5, lines 17 - 48). Summers however did not teach the additional limitations as claimed. Nevertheless, Liang teaches the steps of:

updating the processor accumulated profile information with virtual machine profile information is performed by a virtual machine (page 2, paragraphs 0026 – page 3, paragraph 0028, 0031 – 0039) further comprises:

receiving a request to update the processor accumulated profile information with virtual machine profile information (page 2, paragraphs 0026 – page 3, paragraph 0028, 0031 – 0039); and

updating the processor accumulated profile information with virtual machine profile information, wherein updating the processor accumulated profile information with virtual machine profile information is performed by an operating system kernel (page 2, paragraphs 0026 – page 3, paragraph 0028, 0031 – 0039).

It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to consider combine Summers' and Liang's teachings so that execution related on the virtual machine can be obtained for performance enhancement.

30. Regarding **claims 11 and 12**, Summers teaches the method recited in claim 7 above, wherein the first processor data area is a predefined data area (figs. 3, 6 and col. 8, lines 15 – 47).

31. Regarding **claim 17**, Summers teaches the method recited in claim 16 further comprises:

receiving a request for a thread accumulated profile information (abstract, figs. 2 – 4); and

returning the current thread accumulated profile information (abstract, figs 2 – 4).

Summers however did not teach the additional limitations as claimed. Nevertheless, Liang teaches the step of:

calculating a current thread accumulated profile information by decreasing the value of the thread accumulated profile information by a value of a last accumulated thread accumulated profile information (page 3, paragraph 0031);

resetting the last thread accumulated profile information as the thread accumulated profile information (page 3, paragraph 0031).

It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to consider combine Summers' and Liang's teachings so that thread profile information can be obtained for performance enhancement.

32. **Claims 19, 24, 27, 28, 31, 32, 37, 40, 41, 44 and 45** are rejected on the same ground as stated above.

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Bolosky et al., US 5,485,574 disclosed operating system based performance monitoring of programs to provide a useful performance metric to a user of the system. Kessler, US 6,298,477 disclosed different ways to compile at runtime based on the profile information. Applicants' admitted prior disclosed the profiling information at the processor level is performed by the operating system. Atkinson et al., US Pat. Application Publication 2002/0012329 A1 disclosed profile information of executions in a virtual machine environment.

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 703-305-7864. The examiner can normally be reached on Monday - Thursday, 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lilian Vo
Examiner
Art Unit 2127

lv
March 8, 2004

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